

REMARKS

The present application has been reviewed in light of the Office Action dated August 18, 2009. Claims 1-19, 21, 28, 29, and 32-35 are presented for examination, of which Claims 1, 12, 13, 19, and 21 are in independent form. Claims 1, 12, 13, 19, and 21 have been amended to define aspects of Applicant's invention more clearly. Support for the claim amendments may be found in the specification at page 13, lines 25-31, and at page 20, lines 14-16, for example.¹ Favorable reconsideration is requested.

The Office Action rejects Claims 1-7 and 9-11 under 35 U.S.C. § 103(a) as being unpatentable over a document entitled "Web Services Description Language (WSDL) V1.2" (*Chinnici et al.*) in view of U.S. Patent Application Publication No. 2003/0051216 (*Hsu et al.*), and further in view of a document entitled "MPEG 7: The Generic Multimedia Content Description Standard, Part 1" (*Martinez et al.*); rejects Claim 8 under § 103(a) as being unpatentable over *Chinnici et al.* in view of *Hsu et al.*, in view of *Martinez et al.*, and further in view of a document entitled "An Overview of the MPEG-7 Description Definition Language (DDL) Proposals" (*Hunter et al.*); rejects Claims 12, 19, 20, and 29 under § 103(a) as being unpatentable over *Chinnici et al.* in view of *Hsu et al.*, in view of U.S. Patent Application Publication No. 2003/0028559 (*Moreau*), in view of U.S. Patent Application Publication No. 2004/0117798 (*Newman et al.*), and further in view of *Martinez et al.*; rejects Claims 14-18 under § 103(a) as being unpatentable over *Moreau* in view of *Hsu et al.*, in view of *Chinnici et al.*, in view of *Martinez et al.*, and further in view of *Hunter et al.*; rejects Claims 32 and 33 under § 103(a) as being unpatentable over *Chinnici et al.* in view of *Hsu et al.*, in view of *Martinez et al.*, and further in view of U.S. Patent Application Publication No. 2004/0205573

¹ Any examples presented herein are intended for illustrative purposes and are not to be construed to limit the scope of the claims.

(Carlson *et al.*); rejects Claim 34 under § 103(a) as being unpatentable over Chinnici *et al.* in view of Hsu *et al.*, in view of Martinez *et al.*, in view of Hunter *et al.*, and further in view of Carlson *et al.*; and rejects Claim 35 under § 103(a) as being unpatentable over Moreau in view of Hsu *et al.*, in view of Chinnici *et al.*, in view of Martinez *et al.*, and further in view of U.S. Patent Application Publication No. 2003/0031260 (Tabatabai *et al.*). For at least the following reasons, Applicant submits that independent Claims 1, 12, 13, 19, and 21, together with the claims dependent thereon, are patentably distinct from the cited prior art.

The aspect of the present invention set forth in Claim 1 is a computer-readable storage medium storing control logic for causing a computer to implement a method of offering a service, described in a service description document, in a communication network. The method includes: (1) extracting, from the service description document, a first abstract part, (2) extracting, from the service description document, a second concrete part, (3) extracting, from a binary multimedia document, a content description of the binary multimedia document, (4) comparing the content description and the description of the abstract constraints extracted from the service description document, and (5) transmitting an error message, if the content description does not satisfy the abstract constraints. The first abstract part describes at least one message exchanged over the communication network when the service is performed. The first abstract part includes a description of abstract constraints associated with a binary multimedia document. The second concrete part describes information relating to transmission of the messages over the communication network. Characteristics of the extracted content description are determined by the abstract constraints extracted from the service description document. The description of abstract constraints is represented in a schema language and defines a set of

minimum constraints that the binary multimedia document must meet to be processed when the service is performed.

Among notable features of Claim 1 are that the content description of the binary multimedia document is extracted from the binary multimedia document, that characteristics of the extracted content description are determined by the abstract constraints extracted from the service description document, and that the description of abstract constraints is represented in a schema language and defines a set of minimum constraints that the binary multimedia document must meet to be processed when the service is performed. By virtue of these features, a tool can be provided that takes as inputs a binary multimedia document and an MPEG-7 document, and validates the binary multimedia document based on abstract constraints represented in a schema language included in the MPEG-7 document, for example.

Chinnici et al. is understood to relate to a model for describing web services (see Abstract). Applicant agrees with the Office Action's conclusion that *Chinnici et al.* does not disclose extracting a contend description from a service description document, if abstract constraints associated with a multimedia document are existent, comparing the content description and the description of the abstract constraints, and transmitting an error message, if the content description does not satisfy the abstract constraints (see Office Action, page 4).

Hsu et al. is understood to relate to a system for automatic validation of multimedia product manuals (see paragraph 2). *Hsu et al.* discusses that a Product Document Constraint Specification Language (PDCSL) is provided to represent various types of documentation guidelines as document constraints that are enforced within documents (see paragraph 5). Each document constraint identifies a set of document objects, and specifies a

logical expression that is to be evaluated for each instance of the document objects (*see paragraph 5*). A Document Constraint Analyzer takes as input a set of document files and a document constraint specification file, extracts and examines information associated with the document objects, and evaluates the logical expressions specified in the document constraints (*see paragraph 5*). Applicant agrees with the Office Action's conclusion that *Hsu et al.* fails to disclose that particular constraints, which correspond to constraints that have been extracted from a service description document, are extracted from a *binary* multimedia document (*see Office Action, page 5*).

Martinez et al. is understood to relate to an overview of MPEG-7's motivation, objectives, scope, and components (*see page 78, column 2, paragraph 2*). *Martinez et al.* discusses that MPEG-7 Descriptions can be located physically with associated multimedia material, for example, in a data stream or on a storage system (*see page 82, column 2, paragraph 2*). When content and its descriptions are not collocated, mechanisms that link multimedia material and their MPEG-7 Descriptions are necessary (*see page 82, column 2, paragraph 2*). The MPEG-7 Descriptions can be represented in a text format, in a binary format, or a combination thereof (*see page 86, column 2, paragraph 3*). The binary format, *e.g.*, Binary Format for MPEG-7 (BiM), can provide descriptions in a representation that can be compressed and searched more efficiently than the textual format (*see page 86, column 2, paragraph 3*). *Martinez et al.* also discusses that an XML Schema can be adopted as a basis for a MPEG-7 Description Definition Language (DDL) and that resulting XML-compliant instances can include MPEG-7 Descriptions in the textual format (*see page 86, column 1, paragraph 1*). Nothing in *Martinez et al.* is believed to teach or suggest that characteristics of an extracted content

description are determined by abstract constraints extracted from a service description document, much less that the description of abstract constraints is represented in a schema language and defines a set of minimum constraints that a binary multimedia document must meet to be processed when a service is performed.

Accordingly, Applicant submits that a combination of *Chinnici et al.*, *Hsu et al.*, and *Martinez et al.*, assuming such combination would even be permissible, would fail to teach or suggest a method that includes “extracting, from the binary multimedia document, a content description of the binary multimedia document,” and in which “characteristics of the extracted content description are determined by the abstract constraints extracted from the service description document, wherein the description of abstract constraints is represented in a schema language and defines a set of minimum constraints that the binary multimedia document must meet to be processed when the service is performed,” as recited in Claim 1. Accordingly, Applicant submits that Claim 1 is patentable over *Chinnici et al.*, *Hsu et al.*, and *Martinez et al.*, and respectfully requests withdrawal of the rejection of Claim 1 under 35 U.S.C. § 103(a).

The aspect of the present invention set forth in Claim 12 is a method of producing a request for a service offered by a server, which includes a processor, in a communication network, where the service is described in a service description document. The method includes: (1) reading the service description document, (2) selecting a first abstract part of the service description document, (3) extracting a description of abstract constraints, (4) selecting a binary multimedia document according to the description of the abstract constraints, (5) producing a request for the server in the communication network, (6) extracting, from the binary multimedia document, a content description of the binary multimedia document, (7) comparing the content

description and the description of the abstract constraints extracted from the service description document, (8) if at least one characteristic specified by the description of abstract constraints is determined to be missing from the extracted content description, extracting the at least one missing characteristic from the binary multimedia document and adding the at least one missing characteristic to the content description, (9) comparing again the content description and the description of the abstract constraints extracted from the service description document, and (10) transmitting the request to the server, if the content description satisfies the abstract constraints. The first abstract part describes at least one message exchanged over the communication network when an operation associated with the service is performed. The description of the abstract constraints is associated with the binary multimedia document. The request includes the binary multimedia document selected. Characteristics of the extracted content description correspond to the abstract constraints extracted from the service description document.

Among notable features of Claim 12 are that, if at least one characteristic specified by the description of abstract constraints is determined to be missing from the extracted content description, the at least one missing characteristic is extracted from the binary multimedia document and is added to the content description, and that the content description and the description of the abstract constraints extracted from the service description document are compared again. By virtue of these features, the binary multimedia document can be validated, even if a characteristic specified by a description of abstract constraints is missing from an extracted content description, for example.

Applicant agrees with the Office Action's conclusion that a combination of *Moreau, Hsu et al.*, *Chinnici et al.*, and *Martinez et al.* fails to disclose that an extraction step is

reiterated, if a characteristic of a description is missing (*see* Office Action, page 27). The Office Action states that *Tabatabai et al.* discloses this feature. Applicant respectfully disagrees.

Tabatabai et al. is understood to relate to transcoding between multimedia content data and multimedia description data (*see* paragraph 4). *Tabatabai et al.* discusses that MPEG-4 multimedia content data or MPEG-7 description data can be received (*see* paragraph 58). If MPEG-4 multimedia content data is received, MPEG-7 description data can be derived from the MPEG-4 multimedia content data, a request for additional MPEG-7 description data can be issued to a user, and the requested MPEG-7 description data can be received (*see* paragraph 58). A database can be searched to find MPEG-4 content data having characteristics that match the MPEG-7 description data (*see* paragraph 58). The user is requested to accept and/or select matching MPEG-4 content data, and the above-described process is repeated for the matching MPEG-4 content data (*see* paragraph 59).

Nothing has been found in *Tabatabai et al.* that is believed to teach or suggest that, if a characteristic specified by a description of abstract constraints is determined to be missing from an extracted content description, the missing characteristic is extracted from a binary multimedia document and is added to the content description, and that the content description and the description of the abstract constraints extracted from the service description document are compared again.

Accordingly, Applicant submits that a combination of *Moreau, Hsu et al.*, *Chinnici et al.*, *Martinez et al.*, and *Tabatabai et al.*, assuming such combination would even be permissible, would fail to teach or suggest a method that includes “comparing, by the processor, the content description and the description of the abstract constraints extracted from the service

description document,” “if at least one characteristic specified by the description of abstract constraints is determined to be missing from the extracted content description, extracting, by the processor, the at least one missing characteristic from the binary multimedia document and adding the at least one missing characteristic to the content description,” and “comparing again, by the processor, the content description and the description of the abstract constraints extracted from the service description document,” as recited in Claim 12. Accordingly, Applicant submits that Claim 12 is patentable over *Moreau, Hsu et al., Chinnici et al., Martinez et al.*, and *Tabatabai et al.*, and respectfully requests withdrawal of the rejection of Claim 12 under 35 U.S.C. § 103(a).

Independent Claims 13, 19, and 21 include features sufficiently similar to those of Claim 12 that these claims are believed to be patentable over the cited art for at least the reasons discussed above.

The other rejected claims in the present application depend from one or another of independent Claims 1, 12, and 13 and are submitted to be patentable for at least the same reasons. Because each dependent claim also is deemed to define an additional aspect of the invention, however, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and an early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

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